DOCUMENT RESUME

ED 447 662 EC 308 151

TITLE	Playing with Switches, Birth through Two. Let's Play! Project.
INSTITUTION	State Univ. of New York, Buffalo. Center for Assistive Technology.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	2000-09-00
NOTE	24p.; For related Let's Play! project documents, see EC 308 147-150 and EC 308 152-153. Developed by Susan Mistrett and Amy Goetz.
CONTRACT	H024B50051
AVAILABLE FROM	Let's Play! Project, University at Buffalo Center for Assistive Technology, 515 Kimball Tower, Buffalo, NY 14214-3079; Tel: 716-829-3141 ext. 155; Fax: 716-829-3217; e-mail: mistrett@acsu.buffalo.edu; Web site: http://www.cosmos.ot.buffalo.edu/letsplay/.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Assistive Devices (for Disabled); *Computer Assisted Instruction; *Computer Uses in Education; *Disabilities; Infants; *Input Output Devices; *Play; Toddlers; Toys
IDENTIFIERS	*Switches

ABSTRACT

This guide to playing with switches for parents and early intervention personnel was developed by the "Let's Play! Project," a 3-year federally supported project that worked to promote play in infants and toddlers with disabilities through the use of assistive technology. Switches are used with electronic toys to help young children easily activate and deactivate them while playing. An introductory section emphasizes that using switches with toys can provide the child with a sense of empowerment and develop play skills. Topics covered in the guide include: beginning with highly reactive toys, switches and toys, adapting a toy, accommodating the child's interests and abilities, switch characteristics, switch category types, positioning options, switch toy use, switch interfaces, communication recorded message switches, story telling, games for young children, and pretend play. A directory lists companies producing switches, adapted toys, and switch interfaces for children with special needs. (DB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 447 662

Let's Play!

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

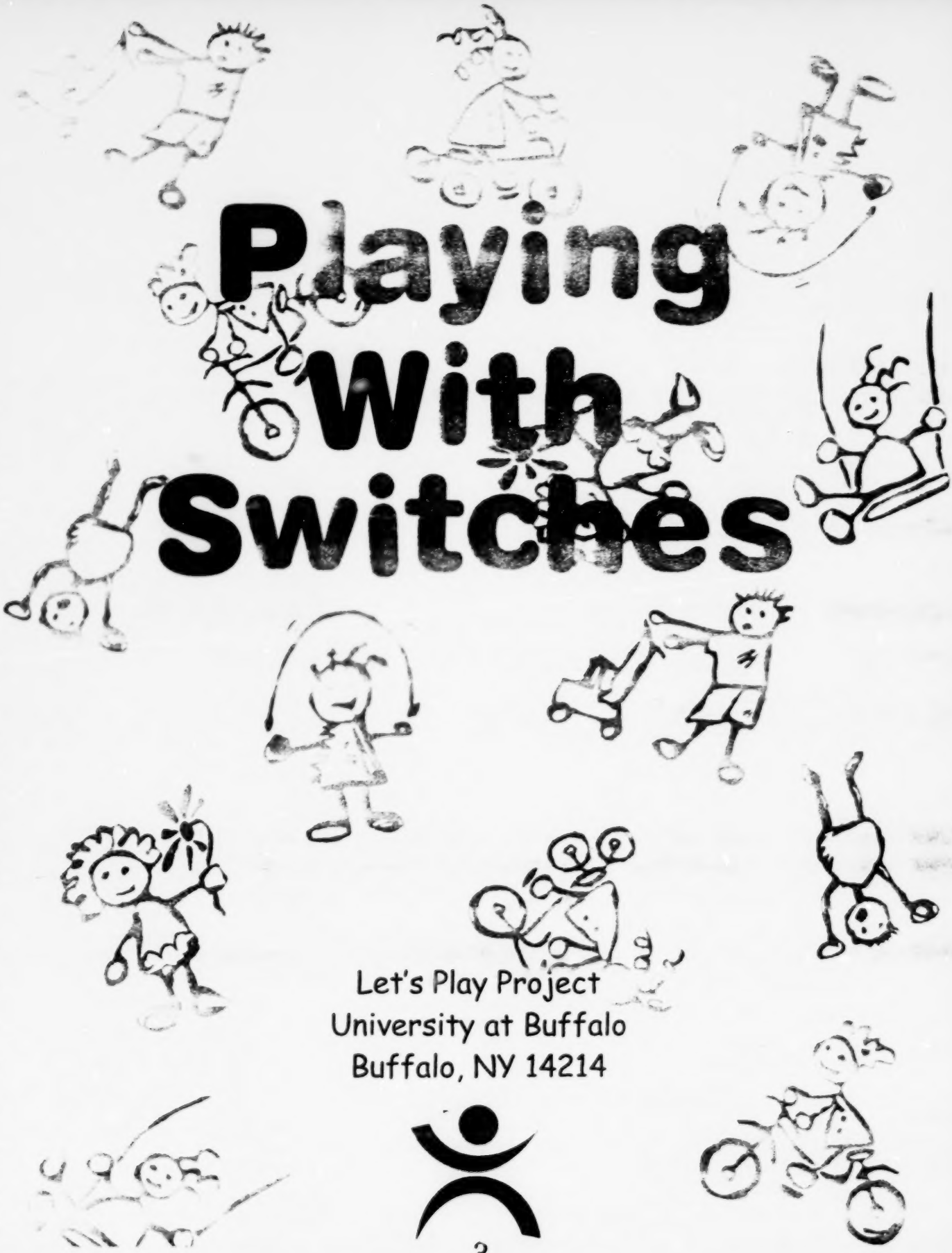
☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

BEST COPY AVAILABLE

EC308151



Playing With Switches

Let's Play Project
University at Buffalo
Buffalo, NY 14214

PLAYING WITH SWITCHES
BIRTH THROUGH TWO

The Let's Play Project is a model demonstration grant funded by the US Department of Education, Office of Special Education Programs, Early Education Programs for Children with Disabilities; #H024B50051. Funding began June 1, 1995 and continues through May, 2000. We began to replicate the model across New York State in 1998. Opinions, materials and references to commercial products do not necessarily reflect the opinions or policy positions of the Department of Education, and no official endorsement by the department should be inferred.

ACKNOWLEDGMENTS

This publication was prepared cooperatively throughout the duration of the Let's Play! Project and included the input of several Early Intervention professionals and reviewed by parents of children in NYS Early Intervention Programs as well as. The following individuals are recognized for their contributions in the development of this document:

Susan Mistrett, MS Ed. — Project Director, Let's Play! Project
Amy Goetz, MS, OTR/L — Coordinator, Let's Play! Project

LET'S PLAY! PROJECT
University at Buffalo/ Center for Assistive Technology
515 Kimball Tower
Buffalo, NY 14214
(716) 829-3141 • Fax: (716) 829-3217
Website: cosmos.ot.buffalo.edu/letsplay/

PLAYING WITH SWITCHES

Finding enjoyable ways for children to play is an ongoing challenge for all parents. What kind of toys to select? How to play together and alone? What to choose next?

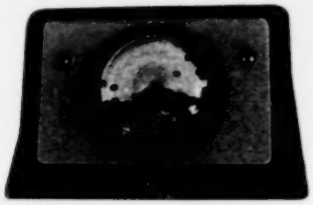
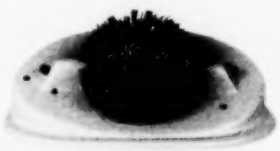
Play is a critical component of childhood. However, children with disabilities may have difficulty interacting with objects and people due to the barriers that their disabilities present. Because these young children may be restricted in the ways they play, communicate, and move, innovative ideas must be found that promote new ways of playing and participating in daily activities. Assistive Technology (AT) has been used to provide new opportunities for children with disabilities to interact with and control their environment. One way we have found is to connect an adapter and a switch to a simple battery-operated toy -- this provides a way for a child to make the toy go "all by himself"! It can also help him to participate in playing with brothers and sisters. What a child wants to participate in will be dictated by their daily activities.

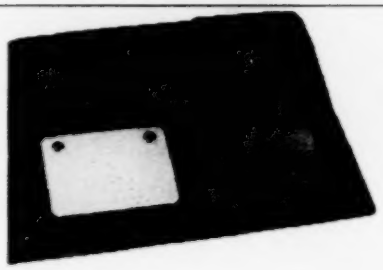
AT can provide the means to the self-generated, active engagement of a child, as his/her ability to exert control becomes possible. This then promotes a pro-active attitude of "I can do it!", leading to increased initiation attempts and empowerment. By finding ways for successful interactions early in life, existing abilities are extended into more complex behaviors. Using switches with toys develop play skills that include: turning them on and off, moving them for social and communicative purposes, making choices to indicate preferences and just having fun!

BEGIN WITH HIGHLY REACTIVE TOYS

Finding toys that a child likes and can interact with is a challenge for all parents. For children who are limited in their ability to locate and manipulate toys, look for toys that provide immediate and intense reactions when touched. Some children prefer a single sensory reaction, such as music or vibration only. Others may prefer multiple sensory reactions. Some reactive toys are designed as switches when connected to an electronic toy/device. Some toys will stay on as long as the child is interacting with them and others will begin with a response and stay on for a few seconds before the child must reactivate the toy again. Both types offer ways to have fun.

Examples of Reactive Toys/Switches

	**Mini Dome Alone** Enabling Devices 385 Warburton Ave. Hastings-on-the-Hudson, NY 10706 *Stays on as long as it is pressed.* $45.00
	Jumpy Crab TFH Ltd. 4537 Gibsonia Rd. Gibsonia, PA 15044 *Reacts to touch by vibration and movement for a few seconds.* $16.00
	Glitter Roll Music Box Switch Enabling Devices 385 Warburton Ave. Hastings-on-the-Hudson, NY 10706 *Reacts with music for a few seconds after being moved.* $65.00
	**Koosch Switch** Enabling Devices 385 Warburton Ave. Hastings-on-the-Hudson, NY 10706 *Reacts with vibration for as long as the koosh is touched.* $40.00

	Sensory Plate Switch Enabling Devices 385 Warburton Ave. Hastings-on-the-Hudson, NY 10706 *Reacts with music and vibration as it is pressed.* $45.00
	**Activity Center** Enabling Devices 385 Warburton Ave. Hastings-on-the-Hudson, NY 10706 *Has several different areas to activate, each with a different response.* $75 - $130

SWITCHES & TOYS

Using switches with toys is a great place to start for children with disabilities. For children with physical disabilities, a single, reliable movement can cause a toy to move. Children with sensory impairments learn that they can be the controlling source of sound, light and vibration; and those with cognitive impairments are able to interact with toys and computers with a single "button", limiting the need for more complex directions.

Switches come in all shapes and sizes. More than 700 different switches are available! Switches are often activated by the hand or arm, but can be used with any body part. To independently use a switch, a child must be able to voluntarily move any single body part with large or small movements.

Switches can be used with anything electronic, including devices that work with batteries or that plug in. Items that run on batteries use direct current (DC) while those with plugs use alternate current (AC). Switches can be used to turn things on and off such as a battery-operated toy, radio or fan by controlling the flow of power. Both types can be adapted for switch use. With different

interfaces, the same switches can also control more complex electronics such as computers, telephones, and environmental systems.

To use a switch with a battery-operated toy, the toy must first be adapted for switch use. A switch is then connected to the battery adapter. When the child activates the switch, the electrical circuit is completed and the current turns the toy/device on. This is referred to as "switch closure". Simple toys and any battery-operated device (flashlight, tape recorder, etc.) can be adapted so that they can be operated using a single switch.

Adapting A Toy

What You Need:

- Any single switch
- A battery-adapter for AA, C or D batteries (see Resources for vendors)
- Any battery-operated toy or device with AA, C, or D batteries. This adaptation works best with toys/devices with an on/off switch.

How to Adapt:

- Insert the copper disk at the end of the battery-adapter between the battery and battery contact; or place it between 2 batteries.
- Turn the toy on - it should not work, since you have interrupted its connection to the battery.
- Plug the switch into the jack at the other end of the battery-adapter. Activate the switch to operate the toy. If it does not work, adjust the copper disk.

What To Do

When starting switch use with the child put the switch as close to the adapted toy as possible. Even attaching the switch with tape or Velcro onto the toy/device will make the connection between the switch activation and the toy more direct. As the child begins to demonstrate his understanding of switch use, move the switch further away from the toy.

- Try adapting commercial reactive toys, such as Humbug or Mr. Potato Head, with a battery adapter so that the child can control the off and on vibrating response.

- In addition to battery-operated toys, games such as Light Brite and Spin Art are easily adapted for switch use (see Switch Activities section).

- Devices such as flashlights and tape recorders can be adapted in the same way.

Child Interests and Abilities

Determining how and when a child can use a switch requires input from all who interact with the child throughout his/her day: the child, family members, caregivers, educators, and other relevant IFSP team members. It is in working together to determine the purpose of the switch use that "useable" technology solutions are discovered.

A child's physical, sensory and cognitive abilities impact on the selection of the switch and where it is positioned. Look for the child's voluntary movement, one that is consistent and that can be controlled. It can be large or small, weak or strong. His/her movement patterns should be observed. The movement should be reliable in that it can be intentionally repeated; a reflexive pattern is not a good choice. Ideally, the child should be able to initiate a movement to activate a switch and be able to sustain and/or release contact with the switch.

The abilities and positioning options of a child are matched with specific features of a switch. For example, a child with a reliable "pulling" motion may be successful using a pull-switch requiring that movement. There may be several switches used during the day as the child's position and participatory interests change.

If the child is able to use his fingers or hands, start with these as their interaction with a switch and the resulting response will all be within a contained visual field. However, since switches are designed to work with any body part, look for the movement that requires the least expenditure of energy and the one the child prefers.

SWITCH CHARACTERISTICS

There are several ways to examine a switch to determine its applicability for a child. Knowing the child's abilities and preferences will help to find a "match".

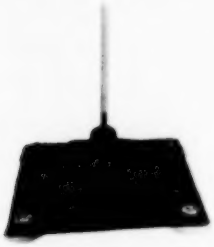
- The **size** of the surface "target" that a child must activate is a primary characteristic; how large does the surface have to be? how small might it be? Examine which areas actually activate the switch? the center? the corners? the edges?
- The amount of **force** (pressure) required to activate a switch must be considered; how sensitive is the switch? Although a switch may be positioned in such a way that gravity can add to the force exerted, switch closure will depend on the amount of consistent exertion by the user. Switches are often described by the amount of force/pressure required for activation.
- Another consideration is the amount of **travel** that a switch has. That is, the distance that a switch must be moved before it activates. Keep in mind however, that some switches are designed with more "play" than others; their material may be more flexible.
- **Feedback** can be tactile and/or auditory. Many switches make an auditory "click" when activated. This may be necessary for children with visual impairments. Other types of switch feedback include vibration or musical sound so that the user knows that a switch has been activated.
- The **durability** of a switch is another important feature as some children may not be able to control the amount of pressure they use to activate a switch.
- What does the switch feel like? Does the child prefer a particular **texture**? Can it be added to the surface later?

Many switches are available that can be controlled by any sensitivity of contact, voice/sound or minimal movement. It is important to let a child try a variety of switches at different parts of the day; s/he will let you know which one is preferred.

SWITCH CATEGORY TYPES

PUSH/TOUCH SWITCH

The push (or touch) switch is the most common type, as the child activates the switch by pushing against the surface of the switch. Push switches are available in a wide range of sizes and shapes, in the type of feedback and in the amount of force a child must use.



LEVER/WOBBLE SWITCHES

Lever switches can be activated by pushing in more than one direction. The leaf and wobble switches are examples of this type of switch. Pushing against or bending the flexible tip in any direction operates these switches. Often mounted near the hands or face/head, they are less rigid than other switches and can be easily mounted.

OTHER MOTORIC SWITCHES

If a child is unable to make a reliable pushing movement, other switches are designed for different motoric movements. Examples of these are the pull switch, the grasp or grip switch, the pinch switch and the tongue switch. These motor-specific switches are designed for users with focused abilities.

Shown are:

- a chain switch where a child can make any movement that causes the chains to move against the metal bar.
- a String switch is pulled to turn a toy on; it has been modified with a koosh ball to make its target easier to see and grab.

ACTIVITY SWITCH

Switch closure can also be the result of a separate activity with the target responding when a separate task is completed. In the photo, when the puzzle is completed, switch closure occurs and the toy that it is connected to turns on.

POSITIONING OPTIONS

For optimal switch play, several things must be considered:

1. The child should be in a comfortable position. Wherever the child is positioned, in a chair, at a table, or on the floor, the child should be secure so that s/he can expend energy on participation. The child should not be putting effort into balancing or maintaining a particular position.

2. The switch should be placed near the child's easiest, most reliable access site. Reflexive or abnormal movement patterns should not be considered as appropriate sites. Switch placement should not interfere with stable body positioning.

3. The toy/device that the child is activating should be placed in close proximity to the switch itself. The closer the switch is to the reacting toy/device, the more concrete the relationship is. Thus, the placement of the switch and target within a visual field is recommended, if at all possible.

4. The switch should be secured in a stable position so that it doesn't move out of place when it is activated. Special switch holders are available or items such as suction cups, Dycem (a non-slip material) or a combination of Show Loop fabric (female Velcro) with male Velcro adhered to the switch, will act to stabilize the switch.
   - There are also several mounting systems available for more sophisticated switch securement. These can include a combination of clamps, mounts, mounting plates, rods and flexible arms. Pieces are sold separately or as systems or kits.
   - Switches can need to be further customized in order to make them more appealing or functional to the user, by adding color stickers or textures to them.

As children should be repositioned frequently throughout the day, there can be more than one switch access site, mounting system, and/or switch that will be chosen for different activities in different positions. The stamina of the child, the environments and activity requirements will help to identify the most successful solutions.

SWITCH TOY USE

As any battery-operated toy can be adapted for switch use, the availability of switch toys is ample. Care should be taken in selecting a toy that best meets the interests and sensory preferences of a child. Consideration should also include the movement of a toy and the visual motor skills required to interact effectively with it.

Selecting a Switch Toy

When looking for switch toys, know the interests and preferences of the child and then carefully examine the features of each toy. Since access has been addressed through switch selection procedures, consider the sensory features of the toy and how the child will react to it. Toys should be intrinsically motivating to a child, encourage his natural curiosity and most of all be fun!

Switch Toy Movement

After identifying the child's toy preferences by observing his reactions to toys with different sensory characteristics, look again at the toys to select those whose movements encourage appropriate "manipulation" by the child and which promote interactive play. Toys should be selected based on their movement patterns, the child's visual ability and anticipatory skills. The child must be able to control the movement of the toy in order to begin to use it within daily activities. Some of the toys can be purchased which are permanently adapted for switch use. Others are commercially available and can be used with a battery adapter. Adapted toys stay on as long as the switch is pressed, strengthening the relation between the child's interaction and the reaction of the toy.

Stationary toys are a good place to begin as they are active yet stay in one place. When they are turned on, they may make musical or other sounds, light up, vibrate or even blow bubbles! The important characteristic is that they do not move. The child can observe the reaction of the toy in a stationary placement.

Tape Recorder (Fisher Price, Sony, Playskool)
Fan (Enabling Devices)
Drummer Bear (Kapable Kids)
Dome Alone (Enabling Devices)
Bubble Bear (Jesana Ltd.)
Glitter Roll Music Box Switch (Enabling Devices)

Horizontal toys move in a single direction. Look for toys that move a short distance and then stop while music is played (or the head goes up and down, etc.) and then move again. Visual motor skills (focus, tracking, etc.) are encouraged. In this way the child is able to watch the result of his switch activation in a calm and controlled activity. By turning the toy towards the child as it moves, the child is immediately involved and his participation is guaranteed!

Pudgy Pigglet (Jesana Ltd.)
Barking Dog (Therapeutic Toys)
Mushy Movers (PlaySchool)
Tuneyville Choo-Choo Train (Enabling Devices)
Muppet Babies Showboat (Toys-R-Us)
Baby Brontosaurus (Enabling Dev.)
Pony Pal (Jesana Ltd.)

Vertical toys are those whose action resulting in going up and down, vertically. For vertical toys the visual tracking and head and neck movement required are different than those required for horizontal toys.

Fireman Ladder Climber (Enabling Devices)
Elefun (Parker Bros.)

3-Dimensional or Circular moving toys incorporate more demanding visual motor skills. These toys incorporate skills used with both horizontal and vertical toys.

Penguins Roller Coaster (commercial or Enabling Devices)
Sesame Street Roller Coaster (commercial)
Circus Seals (Enabling Devices)
Brave Bikers (Enabling Devices)
Machine Ball Factory (SwitchKids, commercial)

Bump and Go toys are the most readily available category of switch toys. However, they are the hardest for children to anticipate their movement and to direct them. Often children enjoy them for their high activity level, but tire of them quickly as they are difficult to "control". By containing the toy within a specific area, the child is able to watch and better control the "bump and go" movements.

Musical Circus Truck (Enabling Devices)
Stop-N-Go (Enabling Devices)
Boom Boom Bunny (Enabling Devices)
Fire Engine (Enabling Devices)
Walking Robot (Enabling Devices)

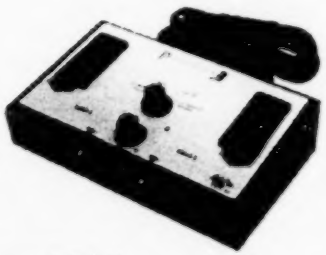
In summary, when using switches and toys there are several things to consider. The child should have easy access to the switch and be able to observe the resulting movement of the toy. The switch and/or toy can be stabilized for better control. The closer the switch is placed to the toy the more concrete the association is. As a child develops, the switches can be placed farther from the source of movement. Labeling the switches with pictures, symbols, etc. can promote early choice making.

SWITCH INTERFACES

A switch interface is a device which is attached between the switch and the toy/device you want to control. There are several switch interfaces available for switch use and enhancement.

- The **battery adapter** is the interface that can transform any battery operated toy or device for switch activation.

- The **Environmental Control Unit** (ECU) is an example of an interface for any electrical appliance with a plug. The unit is plugged into an electrical outlet; the appliance and switch are then both plugged into the unit. The switch turns the appliance on and off.



PowerLink3
(Ablenet)

- **Switch Latch** is an interface used between the switch and the target device. One touch of the switch turns the device on. The device stays on until the switch is activated again. This is often used for prolonged activities, such as listening to music or TV.

- **Timer** is an interface used between the switch and a toy, game or other device. The device will run for a set amount of time (from 1 to 60 seconds) after the switch is activated. The device stops after the pre-set time is

reached (even if the switch is held on); the switch must be re-activated for the device to run.

- **Switch Latch-Timer** is an interface that offers both features: timer and latch.

- **Series Adapter** is an interface used between a device and two switches. Both switches must be activated in order for the device to turn on. This is often used for cooperative activities, where two children must activate their switches at the same time.

- **Jack Adapter** is used to convert the size of the switch jack to match the size on the toy or interface.

COMMUNICATION: RECORDED MESSAGE SWITCHES

Several switches are available that enhance play with language. Messages can be recorded of varying lengths- usually from 3 to 30 seconds. Sound effects, music, or a spoken message can be used. As the child activates the switch, the message is played and the connected toy/device turns on. This is helpful in setting up dramatic/pretend play situations and in playing with other children. Although the single message switches are the best to start with, there are other with dual or multiple message capabilities as a child develops.

Examples of Communication Devices:

Single Message Device
ONE-STEP COMMUNICATOR
AbleNet, Inc.

Multiple Message Device
TALKPAD
Frame Technologies

Single Message Devices:

- Loop Tape with tape recorder
- Big Mack (Ablenet: $86)
- One-Step Communicator (Ablenet: $99)
- Talking Switch Plate Enabling Devices: $5)
- Say & Play (Flaghouse: $112)

Dual Message Devices:

- Say It, Play It (Enabling Devices:$75)
- Talking Rocker Switch Plate Enabling Devices: $65)
- Rocking Communicator (FlagHouse: $114)

BEST COPY AVAILABLE

Sequential Message Devices:
(up to 75 seconds of sequentially played recorded speech)

- Step Talk (Enabling Devices: $79)
- Conversation in a Box (add a switch) (Enabling Devices: $79)

Step-by-Step (Ablenet: 149)

Multiple Message Devices:

- Cheap Talk 4 (Enabling Devices:
- Direct and Scanning)
- Cheap Talk: Say It Play It: ($89)
- Talk Pad (4) (Frame Technologies: $99)
- Chat Line (Flaghouse: $154)
- Voice Mate (4) (TASH: $325)
- VoicePal Pro (2-10) (Adaptivation)

HAVING FUN WITH SWITCH ACTIVITIES

When considering switch use for young children we look to battery operated toys that when turned on will wiggle, moo, move, vibrate, or make loud or soft sounds. This is a great place to start as children quickly learn that their activation of the switch keeps the toy on. However, we find that the toys need to be frequently changed as simply turning something on and off doesn't result in sustained fun.

Through the Let's Play! Project we have collected ways families use switches throughout the child's day for more participation in a variety of home activities/routines. The following is a list of "family sponsored" ideas that have been found to work!

RECORDED MESSAGES

When selecting switches, try ones that include a message option where someone (preferably a child's voice) records a message that is played when the switch is hit. You may want to consider switches with two to four options. This option expands the usability of the switch for it can be used for communication as well as expanding switch toy play.

Messages: The following are single messages that have been recorded and used throughout the day:

Good morning- I'm up
Give me more
Do it again
Read me a story
"Grace" before meals
When are we going to get there?
How much longer?
Record clapping/applause

BEST COPY AVAILABLE

Toy Related Messages: These messages can add to the dramatic features of play and support emerging pretend play:

- Sounds relating to toy action: sirens, animal sounds,
- Sounds relating to activity: "explosion" as toy knocks blocks down: "crash" as car hits wall or object"; "Song: You are My Sunshine" with waving daisy, etc.
- Messages expanding play: "Sound the alarm!" as fire truck is activated; "here I come" as one toy moves towards another; "Come and Find me" as toy is hidden under blanket, etc.
- Note: Consider covering toy with a favorite puppet. This can provide further options!

STORY TELLING/PARTICIPATING

Repetitive Lines

Many storybooks designed for young children include a repeating line or lines that children recognize and anticipate happening. Try recording the line(s) and give the child time to use them as you read the story together! Don't forget to add sound effects.

Suggested Books with repetitive lines:

Classics:

- 3 Little Pigs ("Little pig, little pig, let me come in"; "I'll huff and I'll puff, and I'll BLOW your house in!")
- The Gingerbread Man ("Run, run, run, as fast as you can; You can't catch ME, I'm the Gingerbread man!")

Books/Rhymes: These may have repetitive lines or patterns

- Five Little Monkeys Jumping on the Bed
- The Farmer in the Dell
- Five Little Ducks Went Out to Play
- Goodnight Moon
- The Wheels on the Bus
- Brown Bear, Brown Bear

Telling Stories

Using a **Sequential Message Device** with the child will allow a story to be told in order. The story begins with the first switch activation and continues with each press. Any story or rhyme that can be told in 75 seconds, can be recorded. This works well with most nursery rhymes. A child is able to say the whole story "all by himself" or by taking turns with another child.

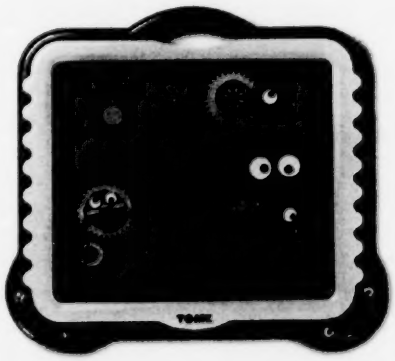
- Hey Diddle Diddle
- Humpty Dumpty

Hint: These devices can be used in combination with switch toys, with some activations resulting in messages ("Mom, come and see") and others resulting in turning the toy on.

GAMES FOR YOUNG CHILDREN

Young children like to participate in games with their brothers and sisters. Several motorized games are available that require a battery for use. Use a battery interrupter to adapt any of these toys/games for switch use.

- Gearation (TOMY)
- Lucky Ducks (Milton Bradley)
- Bubble Machine (Fisher Price)
- Big Bubba Bubble Maker™
- Light Brite
- Spin Art
- Elefun (Parker Brothers)
- Machine Ball Factory (DY Toy)
- Use a tape recorder with a switch to play "statues", "Red Light, Green Light"



Gearation (TOMY)

BEST COPY AVAILABLE

PRETEND PLAY

Young children with disabilities are often limited in opportunities to explore pretend/fantasy play. A new company, Switch Kids (http://www.switchkids.com/) has adapted commercially made toys for switch use that promote interactive make believe play. The descriptions below are from their web catalog.

Cook 'n Play®, - Stovetop	This pretend stovetop is switch adapted with 2 electronic cooking sounds - "bubbling" water and a "whistling" teakettle. Comes with 8 kitchen accessories. When warm water is poured from teapot into cup the tea bag changes color
Pretend & Play Supermarket Checkout®	This durable supermarket set comes with a switch adapted working conveyor belt for interactive play. Nine different food items, shopping basket and credit card are included. The scanner light flashes and register beeps while young checkers "ring up" the scale.
Talking Pay Phone	It works just like a real pay phone! It is switch adapted with two jacks and features electronic sounds and voices. "Hello, please put in coins or phone card" or "Hello, collect call, no coins needed." It also continues to work in original manner by inserting credit card to make a charge call or by dropping in coins for pay call.

Switches, Adapted Toys, Switch Interfaces
Resources for Children with Special Needs

**Ablenet
1081 10th Avenue East
Minneapolis, MN 55414-1312
(800) 322-0956

**Access first
PO Box 3990
Glen Allen, VA 23058
(888) 606-6769

**Adaptivation, Inc.
2225 W.50th Street, Ste.100
Sioux Falls, SD 57105
(800) 723-2783

**AssisTech
P.O. Box 137
Stow, NY 14785
(718) 789-4197

**Crestwood Company
6625 N. Sidney Place
Milwaukee, WI 53209-3259

**Don Johnston, Inc.
26799 W. Commerce Dr.
Volo, IL 60073
(800) 999-4660

**Enabling Devices
385 Warburton Avenue
Hastings-on-Hudson, NY 10706
(800) 234-6006

**Flaghouse - Special Populations
150 No. MacQuestern Pkwy.
Mt. Vernon, NY 14222
(800) 793-7900

**Frame Technologies
W681 Pearl St.
Oneida, WI 54155
(920) 869-2979

**HCT - Handicapped Children's
Technological Services, Inc.
P.O. Box 7
Foster, RI 02825
(401) 861-3444

**Jesana, Ltd.
P.O. Box 17
Irvington, NY 10533
(800) 443-4728

**Kapable Kids, Inc.
P.O. Box 250
Bohemia, NY 11716
(800) 356-1564

Mayer-Johnson Co.
PO Box 1579
Solana Beach, CA 92075
(800) 588-4548

**ORRCA
218 McDowell Road
Lexington, KY 40502
(606) 268-1635

**Switch Kids, Inc.
8507 Rupp Farm Drive
West Chester, OH 45069-4526

**Switchworks
P.O. Box 64764
Baton Rouge, LA 70896
(504) 925-8926

**TASH, Inc.
3512 Mayland Ct.
Richmond VA 23233
(804) 747-5020

**TFH (USA) Ltd.
4537 Gibsonia Rd.
Gibsonia, PA 15044
(412) 444-6400

**Zygo Industries, Inc.
P.O. Box 1008
Portland, OR 97207
(800) 234-6006

Let's Play! Project

Center for Assistive Technology
University at Buffalo
515 Kimball Tower
Buffalo, NY 14214

Phone: (716) 829-3141
Fax: (716) 829-3217
E-Mail: Mistrett@acsu.buffalo.edu
Web: http://cosmos.ot.buffalo.edu/letsplay/